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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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July 2, 2012

12-NWP-088

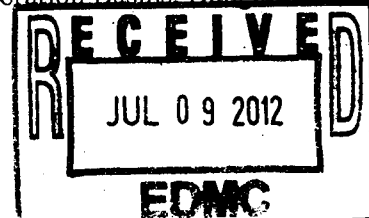
CERTIFIED MAIL

Mr. Matthew S. McCormick
Richland Operations Office
United States Department of Energy
P.O. Box 550, MSIN: A7-50
Richland, Washington 99352

Mr. John Lehew
CH2M HILL Plateau Remediation Company
2420 Stevens Center Place, MSIN: H7-30
Richland, Washington 99354-1659

Re: Notification of Non-Compliance of the Hanford Facility Resource Conservation and Recovery Act Permit, Part VI Post Closure Unit 2, 183-H Solar Evaporation Basins, Dangerous Waste Portion, Revision 8C, ID No. WA 7890008967

References: See Page 3



Dear Mr. McCormick and Mr. Lehew:

This letter is to provide the United States Department of Energy (USDOE) and CH2M HILL Plateau Remediation Company (CHPRC) a notice to comply with the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, revision 8C (Permit). In a document review, the Department of Ecology (Ecology) found one item of non-compliance for the 183-H Solar Evaporation Basins. USDOE and CHPRC are in violation of Chapters 3 and 4 of the 183-H permit post closure plan. Enclosed with this letter is a Compliance Certificate detailing the non-compliance and the corrective action required to achieve compliance. Two items of concern are listed below following the explanation of non-compliance.

Groundwater concentration results exceeded a Permit limit identified in Chapter 3, Groundwater Monitoring During Post Closure. The limits were established by the Permit and in accordance with Washington Administrative Code (WAC) 173-303-645(11) (a). The 183-H monitoring well 199-H4-3 exceeded its concentration limit for nitrate. Nitrate was reported as 49 mg/L and the Permit limit is 45 mg/L. Nitrate is listed as a dangerous waste constituent. Also, Uranium was reported as 28.9 µg/L and Section 3.1.1.2 of the Permit lists it as a waste indicator with a proposed limit of 20 µg/L. The exceedences of these Permit concentration limits occurred in October 2011.

Ecology has a concern with how well the ion exchange resin, SIR-700 is performing in removing 183-H dangerous waste constituents and waste indicators. The Permit's Post-Closure Plan Chapter 4.0, Groundwater Corrective Action, explains that groundwater remediation is under a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Record of Decision (ROD) for the 100-HR-3 Operable Unit. It uses a pumping well system and ion exchange treatment system for removal of chromium and some co-contaminants. The Permit's dangerous waste constituents, chromium and nitrate, cannot exceed their concentration limits as defined by Permit limits established in the groundwater monitoring plan. Nitrate is listed in the Permit because

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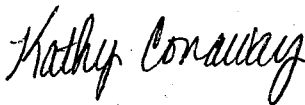
its concentration has shown to be above state cleanup levels. Uranium, a selected waste indicator, is used to define the contaminant plume attributable to 183-H. The current groundwater corrective action plan explains the treatment methodology for the known constituents and a resin used, Dowex 21K. Ecology understands that when the new pump and treat system was implemented, a new resin, SIR-700 replaced Dowex 21K. Ecology is concerned about the performance of SIR-700 in removing 183-H dangerous waste constituents and waste indicators.

Ecology's other item of concern is regarding CHPRC's decommissioning profile for five groundwater monitoring wells in the 100-H Area provided to Ecology on May 3, 2012. Ecology reviewed the profile and concurred that the well excavation plan was consistent with WAC 173-160 requirements. Two of those wells, 199-H4-3 and 199-H4-8, part of the 183-H permit's groundwater monitoring program, are to be decommissioned in support of Washington Closure Hanford waste site excavation activities. However, because this will be a change to the Permit's post closure plan, Chapter 3, groundwater monitoring, you are required to submit a Class 2 permit modification request to Ecology.

Currently, Ecology has not received any permit modification requests for the 183-H Solar Evaporation Basins regarding the wells. The permit modification request should provide information for a permitted well replacement including the well location and well installation timeframe. Any 183-H permit replacement wells will be in compliance with WAC 173-303-645(11) and WAC 173-160. Ecology will consider using an existing RCRA compliant well, 199-H4-84, as one of the replacement wells for 183-H permit monitoring. Well 199-H4-84 was installed in the 183-H Solar Evaporation Basin under the Integrated 100 Area Remedial Investigation/Feasibility Study work plan.

Please contact me if you have any questions regarding this letter and compliance certificate at 509-372-7890 or kcon461@ecy.wa.gov.

Sincerely,



Kathy Conaway
Compliance Lead
Nuclear Waste Program

dc/dbm
Enclosure

cc: see page 3

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References:

1. Second Semiannual Report for 2011 Post-Closure Corrective Action Groundwater Monitoring at the 183-H Solar Evaporation Basins and 300 Area Process Trenches: July - December 2011 (SGW-52136) 1213918
2. Decommissioning Profile for Five (5) Groundwater Monitoring Wells 199-H4-3 (A4629), 199-H4-4 (A4630), 199-H4-7 (A4638), in the 100-H Area for Washington Closure Hanford signed by Ecology on May 3, 2012.
3. Integrated 100 Area Remedial Investigation/Feasibility Study Work Plan, Addendum 1:100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2 and 100 HR-3 (2008-46-ADD-1, Rev 0) 0086495

cc electronic:

James P. Hanson, USDOE
Doug Hildebrand, USDOE
Fred Biebesheimer, CHPRC
David Dooley, CHPRC
Ken Niles, ODOE
Kathy Conaway,

cc: Dave Bartus, EPA
Dennis Faulk, EPA
Stuart Harris, CTUIR
Gabriel Bohnee, NPT
Russell Jim, YN
Susan Leckband, HAB
Administrative Record: 183-H Solar Evaporation Basins
Environmental Portal
USDOE-RL Correspondence Control

COMPLIANCE CERTIFICATE

Instructions: Return this Completed Form or Request an Extension -- Use this form to report if the action(s) needed to achieve compliance, identified during document review on **May 18, 2012** have been completed. Complete the shaded portion of the table and mail a copy of this form to Kathy Conaway by **November 30, 2012** at the following address: Washington Department of Ecology, Nuclear Waste Program, Attention: Kathy Conaway at 3100 Port of Benton Blvd., Richland, WA 99354.

An extension of the deadlines to achieve compliance may be requested. Please make a request in writing, including the reasons an extension is necessary and proposed date(s) for completion, and send it to Kathy Conaway before the date specified above. Ecology will provide a written approval or denial of your request.

The problems identified below must be corrected in order to be in compliance with Washington Dangerous Waste Regulations (Chapter 173-303 WAC), Dangerous Waste Permit, or other environmental laws or regulations. Please indicate the date each action is completed, or indicate "Not Completed" and initial each item. Include any comments explaining the actions taken on a separate piece of paper.

| Violation Cited | Corrective Action Taken and Date |
|--|----------------------------------|
| <p>1) Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, Chapter 3.0 Groundwater Monitoring During Post-Closure, Section 3.1.1.2; and WAC 173-303-645(5) Concentration Limits states that dangerous waste constituents from the regulated waste unit may not exceed concentration limits established by the Permit.</p> <p>Actions Needed: Within 14 calendar days of receipt of this letter, increase the groundwater monitoring and sampling frequency of all 183-H wells from annual to monthly for eighteen (18) months. This monthly monitoring requirement will be for a period of 18 months unless Ecology determines a longer period is required. This monthly monitoring period is required to establish a new baseline under the 100-HX Pump and Treat system using the new resin, SIR-700. 183-H is under a permit corrective action</p> | |

| Violation Cited | Corrective Action Taken and Date |
|--|----------------------------------|
| <p>program. Groundwater is pumped year round and influenced daily by Columbia River stage effects on the pump and treat system. An exception to the monthly monitoring requirement will be the period of May through June 2013 during high river stage and in September and early October 2012-2013 during low river stage. During these time periods, weekly groundwater monitoring is required to better understand permit contaminant concentrations with the 100-HX pump and treat in relation to river stage impacts. Data from the weekly monitoring requirement will provide Ecology the information to assess groundwater influences during high and low river stages.</p> <p>Collect monthly samples for the 183-H within a 1 week period for all 183-H monitoring wells. Sampling events will follow WAC 173-303-645(8)(e) that requires "consistent and analytical methods to ensure reliable ground water sampling, accurately measure dangerous constituents and indicator parameters in ground water samples."</p> <p>Provide Ecology any maps or diagrams that help provide water level elevations and groundwater flow directions for the required sampling event(s). [WAC 173-303-645(8)(f)]</p> <p>Future Semiannual Reports required by the 183-H unit permit and WAC 173-303-645(11)(g) will also include the following information:</p> <ul style="list-style-type: none"> • Monthly monitoring data and date of sample collection. • Weekly monitoring data and date of sample collection. • Maps and diagrams showing water levels. | |

2) 2.1. Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, Chapter 3.0 Groundwater Monitoring During Post-Closure, and WAC 173-303-645(11)(b) states that the owner or operator must implement a corrective action program that prevents dangerous constituents and parameters from exceeding their respective concentration limits at the compliance point by removing the dangerous waste constituents and parameters or treating them in place. The permit will specify the specific measures that will be taken.

Actions Needed:

Within 45 calendar days of receipt of this letter submit a permit modification request that will address how the permit dangerous waste constituents; hexavalent chromium, nitrate, and waste indicators; uranium, and fluoride, will be removed or treated using the 100-HR-X Pump and Treat. The request can include alternative treatment systems. An alternative treatment may require additional soil removal, treatment and disposal. Be specific about the methods and products to be used. A more consistent and frequent monitoring of the groundwater network will be required. The schedule for completion should be no longer than 90 days after receipt of your Ecology approved permit modification request.

Please certify to the following:

David Dooley, Groundwater Analysis and reporting Director, CH2M HILL Plateau Remediation Company, has responsibility for the overall operation of the 183-H Solar Evaporation Basins at Hanford in Richland, Washington, and is duly authorized to sign all reports and other information requested pertaining to compliance with the Part B Permit. As an authorized signatory, my certification is included below:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

David Dooley, Groundwater Analysis and reporting Director